



parameters are loaded into the working register set ahead of the next time slot as indicated by the periodic timer.

[c4] 4.The radio device of claim 1 further comprising an RF device connected to the frequency channel controller for transmitting and receiving radio signals according to the selected frequency channel parameters.

[c5] 5.The radio device of claim 4 wherein the link state controller switches the multiplexer ahead of the next time slot by a predetermined RF settling time of the RF device.

[c6] 6.The radio device of claim 4 wherein the radio device is designed and manufactured according to the Specification of the Bluetooth System for wireless communications.

[c7] 7.The radio device of claim 1 wherein each link state has a different set of frequencies that are cycled through according to the frequency hopping scheme.

[c8] 8.The radio device of claim 1 wherein the link state is determined by information received from a second radio device.

[c9] 9.The radio device of claim 1 wherein when in the standby link state the periodic timer is generated by the radio device, and when in the connection link state the periodic timer is generated by and received from a second radio device.

[c10] 10.The radio device of claim 1 further comprising additional link states and an additional register set for each additional link state, wherein the multiplexer is further connected to outputs of the additional register sets for further selecting and outputting frequency channel parameters of the additional register sets.

[c11] 11.A method for setting a link state for a radio device, the radio device comprising a first register set, a second register set, and a frequency channel controller, the radio device operating under a frequency hopping scheme wherein the radio device changes frequencies according to the link state and according to a periodic timer that defines regular time slots, the method

comprising:

storing standby frequency channel parameters for a next time slot in the first register set;

storing connection frequency channel parameters for the next time slot in the second register set;

selecting the standby frequency channel parameters during a current time slot when the link state of the radio device is to be a standby link state during the next time slot;

selecting the connection frequency channel parameters during the current time slot when the link state of the radio device is to be a connection link state during the next time slot; and

inputting the selected frequency channel parameters into the frequency channel controller prior to the beginning of the next time slot for controlling the radio device during the next time slot.

[c12] 12.The method of claim 11 wherein the storing, selecting, and inputting steps are synchronized through the periodic timer.

[c13] 13.The method of claim 11 further comprising calculating standby frequency channel parameters and connection frequency channel parameters using a software interrupt service routine (ISR) and forwarding the calculated frequency channel parameters to the first and second register sets.